



Suspected ACM Debris Removal Plan

Introduction

The following Operations and Removal for the (O&R) Plan details work practices that will be employed to ensure that potential personal exposure and fugitive emissions from asbestos containing debris is controlled during removal of identified ACM along curbsides in Sectors 1 through 6, in the Joplin tornado debris field.

Potential asbestos-related health effects

The adverse health effects associated with asbestos exposure have been well documented. Chronic exposure to airborne asbestos fibers has been directly linked to several serious respiratory diseases. Exposure to airborne asbestos fibers is regulated by the OSHA in 29 CFR 1910.1001 and 1926.1101. These asbestos standards for general industry and construction specify both time weighted average and short term permissible exposure limits, as well as requiring other training and management practices.

ACM Debris Removal Objectives

The goal of this plan is to safely bag the identified piles of segregated ACM that has been located during the assessment phase. In the assessment phase, USEPA-certified Asbestos Inspectors systematically went through each Sector in the damage zone to identify friable ACM debris. The most significant ACM debris identified is Transite™ cement panel and siding made with asbestos. This material can have between 25 and 65 percent asbestos and can release fibers when disturbed by abrasion, breaking, crumbled, pulverized etc. Each ACM debris location was marked with an “A” (red paint) and caution tape, photographed, and GPS coordinates acquired.

The general scope of this plan has three main objectives:

- Bag and label identified friable ACM debris for proper disposal according to Federal requirements.
- Use specialized work practices and procedures to allow bagging of ACM debris without additional PPE above level D.
- Perform a negative exposure assessment to demonstrate that work practices are sufficient to control asbestos worker exposures and fugitive emissions.
- Arrange for the transportation and proper disposal of bagged ACM debris

Methodology

WESTON will perform bagging, labeling, and disposal of identified ACM debris currently on the curbside using guidance from OSHA's regulations for worker protection. Debris will be bagged in heavy plastic debris bags by trained workers in level D PPE. Debris will be wetted with surfactant containing water prior to handling. A negative exposure assessment will be performed prior to this removal.

Bagging and removal of ACM debris is considered an OSHA Class III operation and maintenance (O&M) worker activity. A Class III asbestos task is defined at 1926.1101(b) as repair and maintenance operations wherein asbestos-containing material (ACM) or presumed asbestos-containing material (PACM) is likely to be disturbed. Additionally, 1926.1101(b) defines "disturbance" as activities that disrupt the matrix of ACM or PACM, crumble or pulverize ACM or PACM, or generate visible debris from ACM or PACM.

Training

OSHA also requires as part of 1926.1101 that persons who conduct Class III work must receive either a 16-hour general training course or a 4-hour (recommended minimum) task or site specific training that must include a hands-on portion.

WESTON will provide our ACM debris removal workers with a site and task-specific 4-hour training course. The outline of the course is provided in Appendix A.

General Work Task Description

WESTON will deploy two person teams with appropriate PPE, equipment, and disposal containers to collect and containerize (6-mil poly waste bags) the friable ACM debris that was identified during the assessment phase. Each team will be assigned a sector and will utilize previously compiled GIS maps and data summaries to re-acquire the ACM debris locations and then secure the material, arrange for pick up for disposal, and then clear the flagging and pavement markings used to label the location.

Task-Specific Work Practice

Transite (asbestos cement board) has been listed as the curbside ACM most encountered, the following work practice

Personnel Monitoring

As part of this work task, WESTON will conduct initial air monitoring using personnel air sampling pumps to collect sufficient samples to establish a negative exposure assessment (NEA). The NEA is intended to establish that a specific work practice will prevent exposure above the OSHA permissible exposure limit (PEL) for asbestos. WESTON will reevaluate work practice and debris characteristics on an ongoing basis as is required according to the OSHA NEA policy.

Clearance

Upon completing the debris bagging activities, the WESTON Team Leader will perform a final visual inspection to ensure that all suspect ACM debris in the marked area has been bagged and that the bags are sealed and properly labeled for disposal. Upon determining that the bagging procedure is completed, the red “A” will be negated by obliterating the mark with black, asphalt colored, paint and all caution tape will be removed. The suspect friable ACM debris location information will be updated as well.

Record Keeping

Maintaining accurate and timely information is necessary to establish that work has progressed and has been completed. The same information collected during the assessment phase (address, street intersections, GPS coordinates, etc.) will be required for each cleanup location. The location information will then be updated in the master spreadsheet and other documentation.

Emergency or Special Operations

In the event of an emergency situation (medical, tornado, fire, etc.), the work area will be shut down in as orderly a fashion as is feasible and either caution tape reestablished or hazards marked and the work area will be secured in some other fashion.

Should issues be observed that require special operations, such as unusual quantities, substrate separation issues, or other special requirements, then the work will not proceed at that location until a written amendment or justification is added to this document.

Appendix A

Task-Specific O&M Training Course Outline

**SITE ASBESTOS O&M WORKER TRAINING
COURSE SCHEDULE**

ACTIVITY

Introduction and Objectives, FAQs

Video

Background Information about Asbestos

Health Effects of Asbestos

Asbestos Management Plan and Asbestos Survey Results

Program Regulatory Review

Respiratory Protection and Other PPE

Asbestos Class III Work Practices Overview

Asbestos Class III Work Practices Hands-On Training

Site specific for hospital facility

Exam

Discussion of Exam

Appendix B

Work Practices for Joplin Project

Asbestos O&M General Procedures Checklist

The *Asbestos O&M General Procedures Checklist* contains steps, tools, and equipment required prior to conducting any asbestos work practice.

Pre-Work Activities

The following activities must be conducted prior to any asbestos O&M activity.

- ☐ Obtain complete Work Authorization from the Designated Asbestos Lead (DAL) at the Command Center.
- ☐ Select and review the appropriate work practice(s) from this document.
- ☐ Visually re-inspect the work area prior to the work activity to confirm that the site description from the master sheets match the ACM to be bagged.
- ☐ If there is a question regarding the suitability of any work practice, contact the DAL to assist in determining if the work practice is applicable to your materials.
- ☐ Order and assemble all tools required to complete the work practice and any related work practices. If a chemical product is required for the completion of a work practice, use only approved non-hazardous chemicals. When chemicals are used, review and follow Material Safety Data Sheets (MSDS) which accompany the product.
- ☐ Confirm procedure for scheduling pick up and disposal of the bagged ACM.

Work Area Preparation

- ☐ Prepare the work area by clearing the area of other hazards and make sure barrier tape is established.
- ☐ Move the required tools and equipment to the work area. Connect any electrical equipment to Ground Fault Circuit Interrupters (GFCIs) if wet methods are being used.
- ☐ Ensure that any electrical hazards have been addressed. Follow current site-specific protocols with P&J.
- ☐ For work practices that may require staging of the material or additional protective measures, place one layer of 4-mil polyethylene (poly) sheeting on the ground near the work area and tape any of the seams with duct tape. Ensure that the poly covers an area sufficient to conduct all of the work practice activities without moving workers or equipment.

Work Practice

- ☐ Conduct the work practice activity following the steps for the specific work practice outlined in this document or equivalent.

Clean-up and Tear Down

- ☐ After completion of the work practice, remove the poly sheeting and tape (if used). Dispose of all waste in an impermeable, sealed disposal bag labeled asbestos. Leave proper headspace with the bag to allow “goose neck” closure of the bag.
- ☐ Complete a uniform hazardous waste manifest for the destination state where the waste will ultimately be disposed in, and contact the P&J to arrange for asbestos disposal bag pick-up and removal.

Tools and Equipment

The following list of tools or equipment are required to conduct most work practices.

- utility knife
- ground fault circuit interrupters (GFCIs)
- wet wipes and bucket of clean water
- disposable towels or rags
- safety glasses
- hard hats
- 4-mil poly sheeting asbestos
- disposal bags

The following list of tools and equipment may be required for a specific work practice:

- duct tape
 - ANSI approved ladder
 - ANSI approved staging
 - Approved HEPA vacuum
 - amended water (commercially prepared or mixed using a 8:1 water/dishwashing liquid solution)
 - sprayer (for amended water)
 - 2"-3" wide scraper with a dull blade
 - dull putty knife
 - hammer
 - 6-mil polyethylene sheeting
 - Approved air sampling devices
 - Approved and functional respirator
 - Authorizing forms and paperwork
 - Labels/placards for barrier set up
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ACM Bagging Work Practice

1. Perform Pre-work activities and checklist.
2. Tools, equipment and materials generally needed:
 - a. Hammer, gloves (leather and nitrile), shovel, garden sprayer
3. Establish location and start paperwork.
4. Secure Work Area
5. Put down poly drop sheet as needed. Prepare disposal bag.
6. Place tools, equipment and materials needed into work area.
7. Adequately wet entire debris area to be bagged using garden sprayer with amended water. Keep water away from any electrical cords or equipment.
8. With one person continuing to maintain wetted conditions, the other person should carefully begin to place the ACM into the disposal bag. Cut or drill hole(s) using saw or drill. Power tools should have an operating HEPA vacuum attached. Wet cutting area during drilling or cutting using amended water.
9. As options, the following wetting methods/controls may be used:
 - a. For small holes, a wet sponge can be placed on both sides of the surface and the hole drilled through the sponges.
 - b. A HEPA vacuum hose may be used near the bit of a non-HEPA equipped drill, and on the back side if accessible.
 - c. Shaving cream can be sprayed on both sides of the drilling area to control dust and debris. Shaving cream must be wiped up and disposed of as ACM.
10. Remove panel piece and wet wipe debris off drill or saw using wet disposable towels and place towels and debris into disposal bag.
11. If back side was enclosed, insert wand of garden sprayer with amended water into back side enclosure and wet dust or debris. Remove back side enclosure and place into disposal bag. Wet wipe surfaces that were exposed inside back side enclosure.

Perform maintenance work and clean-up and tear-down steps as noted in Pre-work and Tear-down checklist to complete work.

Appendix C

Special Operations Amendments (as Needed)

